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5. September 2013

Online at <http://mpa.ub.uni-muenchen.de/52306/>

MPRA Paper No. 52306, posted 16. December 2013 16:52 UTC

**ANALYZING AND VALUING OF THE EXPORT MULTIPLICITY OF AZERBAIJAN
REPUBLIC**

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ABSTRACT

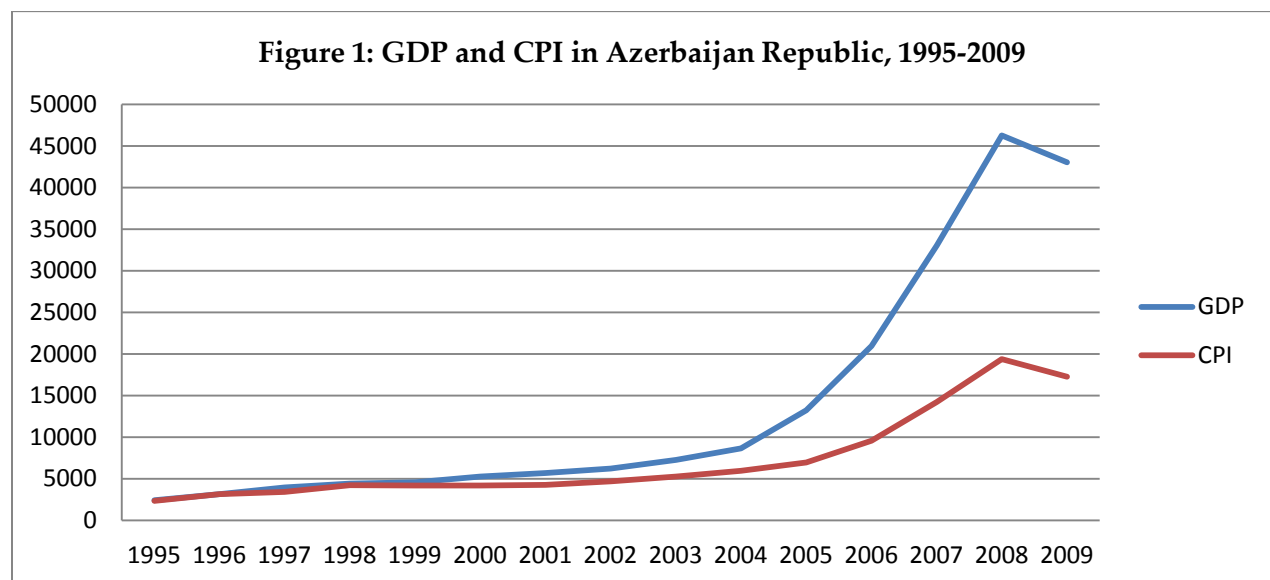
In this article, the export multiplicity of Azerbaijan Republic has been analyzed during 1995-2009. Firstly, the relationship between GDP on CPI has been estimated and it found as a positive and meaningful. Secondly, the effect of GDP on Net export has been estimated, where these two findings allow us to estimate the export multiplicity of Azerbaijan Republic. The export multiplicity of Azerbaijan Republic found as a 0.9, where it emphasize that effect of GDP on net export is meaningful and strong with including the effect of real effective exchange rate on net export.

Key words: export multiplicity, net export, consumer price, and real effective exchange rate

After getting its sovereignty Azerbaijan Republic increased foreign trade potential and currently has trade relations with more than 100 countries. As the result, first of all, the development of local production and technical potential and the demand of people to different food and non-food goods have been provided, secondly, as the industry develops the other sectors of the economy (agriculture, transportation, information and communication and etc.) also develop. In such condition, increasing the volume of foreign trade, improvement of its structure, and widening its geography are important issues. In this article, the economical relations between Foreign Trade Balance and GDP, Consumer Price Index: CPI, Real Effective Exchange Rate: REER have been analyzed.

According to official statistics of 1995-2009 during these years the foreign trade balance was negative, but between years of 2000-2009 (2003 is excluded) it was positive (in US dollar). In other words, one part of the income generated between years of 1995-1999 in the country exited from the country. This, in turn is counted to be the reduction factor of expenditure multipliers.

As seen from GDP and CPI of Azerbaijan Republic between the years of 1995-2009 the GDP and CPI increased continuously during these years. Only in 2009 there was slight reduction and the main reason was economic recession in the world as the result of global financial crisis in 2008.



If we take into consideration the CPI as the function of GDP:

$$CPI = C_0 + b * GDP,$$

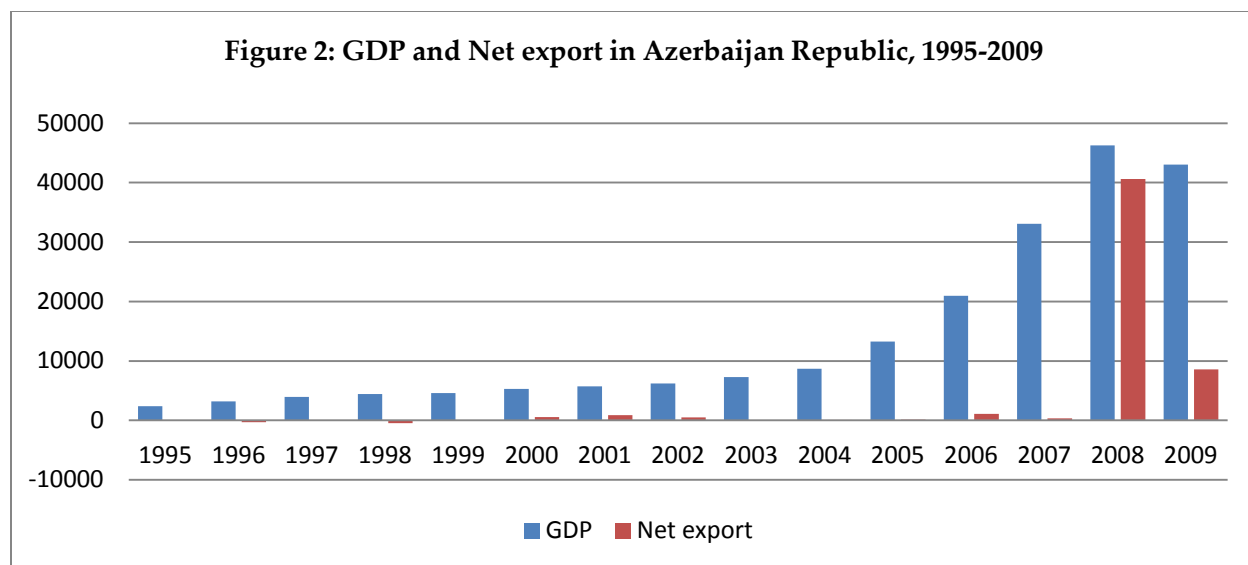
The results according to statistical indicators of Azerbaijan Republic between years of 1995-2009 are given below:

Table 1:

<i>CPI =</i>		<i>2006.83</i>	<i>+</i>	<i>0.44</i>	<i>GDP</i>
		<i>(160.30)</i>		<i>(0.01)</i>	
Number of observations: 15			F-statistic: 2128.42		
R ² : 0.99			Log likelihood: -111.35		
Adjusted R ² : 0.99			Durbin-Watson stat: 1.19		

As seen from regression equation the relationship between CPI and GDP is positive. In case other conditions are stable, then US \$100 increase in GDP in Azerbaijan Republic between the years of 1995-2009 resulted in average US \$44 increase in CPI. The reliability of the model is 99.3%. Thus, if all the conditions are stable 99.3% change in CPI is explained by changes in GDP. There is no possibility of zero coefficients as the standard errors of coefficients in model are very small. In this regression t statistics of coefficients are high and with this all the coefficients of independent variables are meaningful.

In open economy in order to determine the quantity of foreign trade multiplier it is important to analyze the net export function. It is supposed that export doesn't depend on national income, it depends on increase in income in abroad. Subsequently the national income of the country will increase with export limit trend.



If we take net export as the dependent linear function of GDP,

$$Net_export = C_0 + m * GDP$$

Here, m shows the limit trend to import (export). If m coefficient is positive it will be limit trend to export, if it is negative it will be limit trend to import. The stable development of country's foreign trade affects the GDP production and other macro indicators of the country. The foreign economic activity, especially the volume of foreign trade, its structure, and geography play great role in providing balanced socio-economic development of Azerbaijan in last years.

The result from regression equation is:

Table 2 :

$$Net_export = -3818.2 + 0.61 GDP$$

(2849.1) (0.17)

Number of observations: 15

R²: 0.50

Adjusted R²: 0.46

F-statistic: 12.82

Log likelihood: 154.52

Durbin-Watson stat: 2.75

The relationship between foreign trade balance and GDP is positive. In case of other conditions are stable, US \$100 increase in GDP resulted in average US \$61 increase in foreign

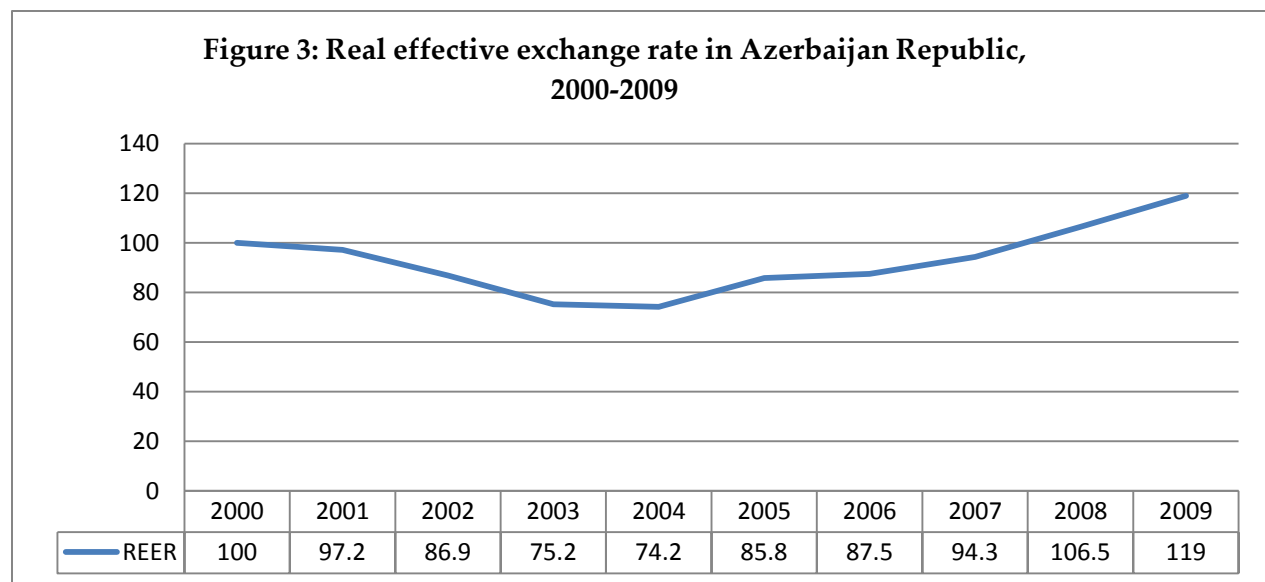
trade balance between years of 1995-2009. The reliability of the model is 49.6 %. Thus, in case of other conditions are stable 49.6% change in foreign trade balance is explained by the changes in GDP. Standard error of GDP coefficient in the model is very small and that is why there is small possibility of zero coefficient. However, import limit trend is 0.61. In other words, the country exports average 61% of GDP.

After finding the impact of GDP on CPI and import limit trend we can calculate the foreign trade multiplier:

$$\mu = \frac{1}{1 - b + m} = \frac{1}{1 - 0.44 + 0.61} = 0.85$$

As the interdependent functions of different parts of national accounting system consumption limit trend (**b**) and export limit trend (**m**) are calculated as foreign trade multiplier based on discussions above. Under foreign trade multiplier we mean the ability of GDP to create net export. As the result, the foreign trade multiplier is calculated as 0.85 which shows that GDP has great effect on country's export.

Real effective rate of exchange is average calculated indicator of real rate of exchange for currencies of country's main foreign trade parties and to calculate it the shares of those countries in Azerbaijan foreign trade turnover are taken into consideration. That is, this is average unique rate of exchange of manat against currencies in its foreign trade turnover.



Increase in real effective exchange rate shows that the competitive ability of local goods in the country goes down. At the same time, in the calculation of real effective exchange rate annual inflation in the country and in partner countries of foreign trade that is inflation also affects the increase in real effective exchange rate. Even not only in Azerbaijan but also the inflation level of partner countries must be taken into consideration. If inflation in Azerbaijan is more than in partner countries then it shows that the competitiveness of local goods fall down.

If world CPI and real effective exchange rate are added to net export and GDP equation then:

Table 3:

$$\text{Net_export} = \frac{-42154.87}{(19829.25)} + \frac{0.55}{(0.22)} \text{GDP} + \frac{8172.13}{(2480.34)} \text{CPI} + \frac{64.17}{(10.12)} \text{REER}$$

Number of observations: 15

F-statistic: 8.98

R²: 0.81

Log likelihood: -99.61

Adjusted R²: 0.726894

Durbin-Watson stat: 1.81

If we don't take into consideration the effect of CPI and REER on net export, then US \$100 increase in GDP in Azerbaijan Republic between the years of 1995-2009 led to average US \$55 increase in foreign trade balance. In case of other conditions are stable, and the effects of CPI and REER on net export aren't taken into consideration, 1% increase in CPI in those years led to US \$8172 increase in foreign trade balance. If we don't take into consideration the effect of CPI and REER on net export, 1% increase in REER led to US \$64 increase in foreign trade balance. In case of other all conditions are stable, 81.8% change in foreign trade balance is explained by GDP, CPI and REER.

Foreign trade multiplier

$$\mu = \frac{1}{1 - b - m} = \frac{1}{1 - 0.44 + 0.55} = 0.9$$

The result of foreign trade multiplier is 0.9, when REER is added to net export function, the relationship between GDP and country's export become stronger. For balance of manat's

REER the economical development potential must be fully used, the inflation must be kept at lower than targeted level, balance in current operations must be recorded. The calculations show that the REER index of manat is lower than equilibrium price. If mechanical devaluation of manat happens, the difference between equilibrium price of national currency and its nominal rate will become more and this will lead to economic complications. Notwithstanding with this, rise in REER index of manat affects negatively the country's economic competitiveness.

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